WHAT IS CLAIMED IS:

1. A viewing device for viewing by a user, the device comprising:

a support structure; and

a far field transmission hologram supported by the support structure, the far field transmission hologram having a graphic image encoded therein;

wherein, when the support structure is disposed in a viewing position of the user, the graphic image is superimposed, with substantially no reversed diffracted copy of the graphic image, on a natural scene as viewed by the user through the hologram, and

wherein the superimposed graphic image and the natural scene are viewable by the user in combination with substantial clarity.

2. The viewing device of claim 1, wherein the far field transmission hologram is a spatially varying diffraction efficiency far field hologram.

3. The viewing device of claim 2, wherein the far field transmission hologram is a fill factor modulated far field hologram.

4. The viewing device of claim 3, wherein the support structure is formed as a spectacle frame.

5. The viewing device of claim 3, wherein the support structure is formed as a hand-held viewer.

6. The viewing device of claim 3, wherein the support structure is formed as a bookmark.

7. The viewing device of claim 3, wherein the support structure is formed as an article of jewelry.

8. The viewing device of claim 2, wherein the far field transmission hologram has a high diffraction efficiency region with plural low diffraction efficiency regions distributed irregularly across the high diffraction efficiency region.

9. The viewing device of claim 8, wherein the percentage of area of the far field transmission hologram occupied by the plural low diffraction efficiency regions is selected so as to obtain a balance of un-diffracted light seen by the user and light diffracted into the graphic image.

10. The viewing device of claim 8, wherein the size of each of the plural low diffraction efficiency regions is selected to be sufficiently large so as to prevent any diffraction patterns caused by the low diffraction efficiency regions from distracting from the graphic image.

11. The viewing device of claim 8, wherein the size of each of the plural low diffraction efficiency regions is selected to be sufficiently small so as to prevent a need to maintain precise position with respect to an eye of the user in order to view the graphic image.

12. The viewing device of claim 1, wherein the far field transmission hologram is a computer-generated multilevel phase far field transmission hologram.

13. A viewing device for viewing by a user, the device comprising:

a spectacle frame having lens apertures; and

a far field transmission hologram disposed in one or more of the lens apertures of the frame, the far field transmission hologram having a graphic image encoded therein;

wherein, when the spectacle frame is disposed in a viewing position of the user, the graphic image is superimposed, with substantially no reversed diffracted copy of the graphic image, on a natural scene as viewed by the user through the hologram, and

wherein the superimposed graphic image and the natural scene are viewable by the user in combination with substantial clarity.

14. The viewing device of claim 13, wherein the far field transmission hologram is a fill factor modulated far field hologram.

15. The viewing device of claim 13, wherein the far field transmission hologram is a spatially varying diffraction efficiency far field hologram.

16. The viewing device of claim 13, wherein the far field transmission hologram includes an interferometrically recorded pattern of optical phase variation.

17. The viewing device of claim 13, wherein the far field transmission hologram is a computer-generated multilevel phase far field transmission hologram.

18. An optical device comprising:

a reflective far field hologram, wherein the hologram is a fill factor modulated far field hologram.

19. The optical device of claim 18, wherein the reflective far field hologram has a backside, the optical device further comprising:

adhesive disposed on the backside of the hologram so as to form a sticker.

26. The method of claim 20, wherein altering the at least one optical property of a substrate comprises: generation via computer of a multilevel phase hologram.

18 ~~27~~. A filter for use with a camera having a light gathering path and an image sensor, the filter comprising:

a far field transmission hologram, the far field transmission hologram having a graphic image encoded therein and being adapted for mounting in the light gathering path;

wherein, when the far field transmission hologram is mounted in the light gathering path, the graphic image is superimposed, with substantially no reversed diffracted copy of the graphic image, on a natural scene as viewed by the image sensor through the hologram, and

wherein the superimposed graphic image and the natural scene are viewable by the image sensor in combination with substantial clarity.

19 ~~28~~. The filter of claim 18 ~~27~~, wherein the far field transmission hologram is a fill factor modulated far field hologram.

20 ~~29~~. The filter of claim 18 ~~27~~, wherein the far field transmission hologram is a computer-generated multilevel phase far field transmission hologram.

21 ~~30~~. The filter of claim 18 ~~27~~, further comprising:

a filter frame, the far field transmission hologram being mounted in the frame.

20. A method of generating a far field transmission hologram, the method comprising:

altering at least one optical property of a substrate to form a substantially shift-invariant far field hologram, the far field hologram having a graphic image encoded therein, wherein the alteration of the at least one optical property produces a high diffraction efficiency; and

substituting a low diffraction efficiency pattern for at least one selected region of the far field hologram.

21. The method of claim 20, wherein the low diffraction efficiency pattern comprises a substantially optically flat surface.

22. The method of claim 20, wherein the far field hologram is computer-generated.

23. The method of claim 20, wherein the substantially shift-invariant far field hologram has a utilized hologram area and has a minimum probe diameter, and

wherein the size of the selected region of substitution is substantially smaller than the utilized hologram area and is substantially larger than the minimum probe diameter.

24. The method of claim 20, wherein altering the at least one optical property of a substrate comprises: amplitude modulation.

25. The method of claim 20, wherein altering the at least one optical property of a substrate comprises: optically interferometrically recording a hologram.